



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/668,292 | 09/25/2000 | Andreas Meyer | 32238W020 | 1281 |

7590 03/22/2002

Smith, Gambrell & Russell, LLP
Beveridge, DeGrandi, Weilacher & Young
Intellectual Property Group
1850 M Street, N.W., Suite 800
Washington, DC 20036

[REDACTED] EXAMINER

MAKI, STEVEN D

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 1733 | 6 |

DATE MAILED: 03/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

59

| | | |
|------------------------------|-----------------|--------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/668,292 | MEYER ET AL. |
| Examiner | Art Unit | |
| Steven D. Maki | 1733 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on ____ .

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) ____ is/are withdrawn from consideration.

5) Claim(s) ____ is/are allowed.

6) Claim(s) 1-7 is/are rejected.

7) Claim(s) ____ is/are objected to.

8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. ____ .
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1733

- 1) The disclosure is objected to because of the following informalities: on page 5 line 18, "Brief Description of Invention" should be --Brief Description of Drawings--.

Appropriate correction is required.

- 2) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- 3) Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As to claim 2, the subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention is the subject matter of the radius TRA being determined according to the equation "015 < TRA < TR₁" (emphasis added). In particular, the description of the radius TRA being greater than "015" is inadequate because the meaning of /units for "015" is not adequately described. For example: Is "015" descriptive of an index of some kind? Another example, does "015" mean --15 mm-- or --15 inches--? In other words, the original disclosure fails to provide guidance as to what values (e.g. in mm or inches) fall within the claimed range of "015 < TRA". Since the subject matter of claim 2 is not adequately described, the subject matter of claim 2 is not enabled. It is suggested to cancel claim 2.

- 4) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5) Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the relationship between the "tires" on line 3 and the claimed tire is unclear. In claim 1 lines 2-3, it is suggested to change "in the case of mounted, loaded and inflated tires" to --when the tire is mounted, loaded and inflated-- to thereby clarify the description of the tread width TW.

In claim 1, it is unclear if the tread has three radii or four radii. Since the body of claim 1 describes a first radius TR₁, a radius TR₂, a radius TRA and a fourth radius, the following change is suggested: In claim 1 line 4, change "at least three different radii" to --at least four different radii--.

In claim 1 lines 4-5, "the first radius TR₁" should be --a first radius TR₁-- to avoid a minor antecedent basis problem.

In claim 1 lines 8-10, the description of "wherein each case the edges of the tread strip defined by the tread width TW run in an area with a fourth radius" is ambiguous and awkward. First: The description of "wherein each case the edges" is grammatically incorrect. Second: There is no clear antecedent basis for "the edges". Third and more important: The description of edges "running" in an area is confusing and ambiguous. In claim 1 lines 8-10, it is suggested to change "wherein each case the edges of the tread strip defined by the tread width TW run in an area with a fourth

radius" to --wherein each edge of the tread strip defined by the tread width TW is located in an area with a fourth radius--.

In claim 2, the scope and meaning of "015 < TRA < TR₁" (emphasis added) is not clear; it being noted that the original disclosure fails to adequately describe this expression for the reasons given above. It is suggested to cancel claim 2.

In claim 4, "especially" makes the scope of the claim unclear. It is suggested to delete --, especially according to the equation $3TW \leq TR_1 \leq 6TW$ --

In claim 7, "especially" makes the scope of the claim unclear. It is suggested to delete --, especially 3-10%, of the tread width TW--.

In claim 7, "wherein each case the transition to the shoulder radius" is ambiguous and awkward. First: This phrase is grammatically incorrect. Second: There is no antecedent basis for "the transition". What defines "the transition"? In claim 7 lines 1-2, it is suggested to change "wherein each case the transition to the shoulder radius takes place" to --wherein on each side of the tire, a transition from the radius TRA to the shoulder radius takes place--.

6) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 1733

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8) **Claims 1-2 and 4-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Tokutake (US 5,117,886).**

Tokutake discloses a pneumatic radial tire for passenger cars comprising a tread 26, shoulder 4 and sidewalls 7. See figure 1. In order to improve ground contact performance, the outer contour of the tread 26 is axially divided into three or more (preferably four or more) regions with different curvatures in such a way that the radius of curvature of these regions decreases from the equatorial plane E to the tire shoulder portion 4. See col. 6 lines 44-50. Figure 1 shows the tread 26 as having four regions 26a, 26b, 26c, and 26d. The region 26a of the tread surface is defined by radius K1. The region 26b of the tread surface is defined by a radius K2. The region 26c of the tread surface is defined by a radius K3. The region 26d of the tread surface is defined by a radius K4. See figure 1. In an embodiment, the radii are as follows:

$$K1 \text{ (TR1)} = 1600 \text{ mm},$$

$$K2 \text{ (TR2)} = 470 \text{ mm},$$

$$K3 \text{ (TRA)} = 90 \text{ mm and}$$

$$K4 \text{ (fourth radius)} = 20 \text{ mm}.$$

See col. 6 lines 38-63.

With respect to TR1 > TR2, note that $K1 \text{ (TR1)} > K2 \text{ (TR2)}$. With respect to TR1 > TRA, note that $K1 \text{ (TR1)} > K3 \text{ (TRA)}$. With respect to TRA = 5-65% TR1, note that $K3 \text{ (TRA)} = 5.6 \% K1 \text{ (TR1)}$ wherein $90 \text{ mm} / 1600 \text{ mm} \times 100\% = 5.6 \% \text{ which falls within the claimed range of 5-65\%}$. With respect to the case where TR2 > TRA and TR2 = 10-

Art Unit: 1733

95% TR1, note that K2 (TR2) > K3 (TRA) and that K2 (TR2) = 29.4% K1 (TR1) wherein
470 mm / 1600 mm x 100% = 29.4% which falls within the claimed range of 10-95%.

With respect to the fourth radius, note radius k4 (a fourth radius). With respect to the shoulder radius, the tire of Tokutake has a shoulder radius as claimed since, as can be seen from figure 1, the shoulder 4, like the tread 26 and the sidewall 7, is curved. With respect to tread width TW, Tokutake teaches mounting the tire on a rim for a passenger car and inflating the tire. See title and col. 2 lines 32-43. At col. 3 lines 4-9, Tokutake teaches that when the tire is inflated, the tread width between one tread end and the other tread end is substantially equal to the rim width to increase the tire contact area. See column 3 lines 4-9. As can be seen from a comparison of figure 1 (the cross sectional shape of the tire when vulcanized) and figure 2 (the cross sectional shape of the tire when inflated), the region 26d is located at a tread edge; it being noted that region 26d is part of the tread 26 which defines the "tread contact area".

As to claim 1, the claimed tire is anticipated by the tire of Tokutake. The claimed radius of TR1, TR2, TRA and fourth radius are anticipated by radius K1, radius K2, radius K3 and radius K4 respectively. The tire of Tokutake has a shoulder radius as claimed since, as can be seen from figure 1, the shoulder 4, like the tread 26 and the sidewall 7, is curved.

Claim 1 fails to require the inflated tire to have the claimed radii. At page 7 lines 11-13, the original disclosure states: "[a]s shown in Figure 1 in conjunction with Figure 2, the tire mounted on the rim 10 and inflated has in the tread strip an area encompassing the zenith of the tire, which is identified in the drawings by the Point P₀,

Art Unit: 1733

with the radius TR1" (emphasis added). This disclosure indicates that the radius TR1, radius TR2, radius TR3, the fourth radius and the shoulder radius are for the "inflated and mounted tire". Although claim 1 defines the tread width TW as being for a mounted and inflated tire, claim 1 fails to define the radius TR1, radius TR2, radius TR3, the fourth radius and the shoulder radius as being for the inflated and mounted tire. Claim 1 fails for example to recite --when the tire is inflated and mounted and when viewed in cross section, the outer contour of the tread strip has ...--.

As to claim 2, note Tokutake's teaching to use K1 (TR1) = 1600 mm and K3 (TRA) = 90 mm. Also, note the above 112 second and first paragraph rejections.

As to claim 4 (TR1 = 3TW to 25TW), note that Tokutake teaches that K1 (TR1) = 1600 mm and that rim width A (which is substantially the same as tread width when the tire is inflated) = 177.8 mm wherein $1600 \text{ mm} / 177.8 \text{ mm} = 9.0$ which falls within the claimed range of 3-25.

As to claims 5-7, note the relative widths of regions 26a, 26b, 26c and 26d shown by Tokutake.

9) **Claims 1-2 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokutake (US 5,117,886) in view of Glover et al (US 5,238,038) and optionally Japan '223 (JP 6-191223) or Japan '808 (JP 2000 – 79808).**

With respect to Japan '808, Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Tokutake, which is discussed above, is considered to anticipated claim 1. In any event: As to claim 1, it would have been obvious to one of ordinary skill in the art to provide the tire of Tokutake, *when inflated and mounted and when viewed in cross section*, with the claimed four different radii and shoulder radius so that the tire of Tokutake has more evenly distributed footprint pressure laterally across the tread since (a) Tokutake, which shows the tire as having a curved shoulder 4, teaches dividing the tread 26 into four regions 26a, 26b, 26c and 26d with different radii (i.e. four radii K1, K2, K3, K4) to improve ground contact performance and (b) Glover et al suggests providing a tire such that *when mounted and inflated*, the tread portion has a cross sectional profile with multiple radii (R1, R2, R3) so that the tire has more evenly distributed footprint pressure laterally across the tread. Hence: Tokutake and Glover et al each teach using multiple radii to define an outer contour of a tread. Tokutake specifically suggests using four different radii. Glover et al suggests using the multiple radii for an inflated and mounted tire so that the tire has more evenly distributed footprint pressure laterally across the tread.

As to claim 1, the limitations of (i) $TR1 > TR2 > TRA$; (ii) $TR2 = 10\text{-}95\% TR1$ and (iii) $TRA = 5\text{-}65\% TR1$ would have been obvious in view of (a) Tokutake's teaching to use four different radii (such as radii $K1 = 1600$ mm, $K2 = 470$ mm, $K3 = 90$ mm, $K4 = 20$ mm) so that the radius of curvature of these regions decreases from the equatorial plane E to the tire shoulder portion 4 to improve ground contact performance and (b) Glover et al's teaching to define the contour of a tread of a tire *when inflated and mounted* with multiple radii which decrease from the equatorial plane to the tread edge

to so that the tire has more evenly distributed footprint pressure laterally across the tread.

As to claim 1, the limitation of the edge of the tread strip defined by the tread width TW running (being located) in an area with a fourth radius would have been obvious in view of (a) Tokutake's teaching to use a fourth radius K4 to define the outer contour of tread region 26d of a tread 26 and optionally (b) either Japan '223 or Japan '808's suggestion to use a fourth radius at a tread edge.

As to dependent claims 2 and 4-7, the following comments are made: The limitation of TRA = 015 to TR1 (claim 2) and TR1 = 3TW-25TW (claim 4) would have been obvious in view of the size of the four different radii suggested by Tokutake and optionally in view of the size of the four different radii suggested by Japan '223 or Japan '808. The limitation of area for TR1 being 10-70% TW (claim 5), the area for TR2 being 15-90% TW (claim 6) and R4 being at a distance RA from tread edge where RA = 1.5 – 14% TW would have been obvious in view of the relative sizes and locations for the four different regions with different radii suggested by Tokutake and optionally in view of the relative sizes and locations for the four different regions with different radii suggested by Japan '223 or Japan '808.

10) **Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokutake (US 5,117,886) in view of Glover et al (US 5,238,038) and optionally Japan '223 (JP 6-191223) or Japan '808 (JP 2000 – 79808) as applied above and further in view of Japan '802 (JP 4-87802).**

Art Unit: 1733

As to claim 3, limitation of adjoining TR2 = 60-95% center TR1 would have been obvious in view of (a) Tokutake's suggestion to use a center radius K1 and an adjoining radius K2 such that adjoining radius K2 < 100% center radius K1 and (b) Japan '802's suggestion to use a center radius RC of 3.1-3.4 and an adjoining radius RM of 2.2-2.5 WT to improve running performance, running stability and durability – an adjoining radius RM of 64%-81% the center radius RC thereby being suggested.

Remarks

11) The remaining references are cited of interest.

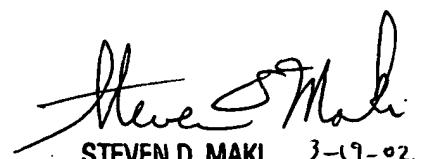
12) No claim is allowed.

13) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is 703-308-2068. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7718 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven D. Maki
March 19, 2002


STEVEN D. MAKI 3-19-02
PRIMARY EXAMINER
GROUP 1300
AU 1733